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Date:	OCTOBER 4, 2004
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Attorney Docket No.	GB 000003 (7790/338)
Application Number	09/631,353
Filing Date	AUGUST 2, 2000
First Named Inventor	TIMOTHY J MOULSLEY
Group Art Unit	2665
Examiner	BARANYAI, LAWRENCE

ENCLOSURES (check all that apply)

- ☐ Amendment
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Status Letter
- ☐ Petition for Extension of Time Request (duplic)
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement, PTO-1449, art
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts/ Incomplete Application
- ☐ Assignment Papers (for an Application)
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- ☐ To Convert a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
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- ☐ Appeal Communication to Board of Appeals and Interferences
- ☒ **Appeal Brief (Triplicate)** (*Appeal Notice, Brief, Reply Brief*)
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+$150	---		+ $300=	
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Signature	Date: October 4, 2004

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x $9=	0		x $18=	
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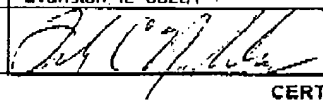
Signature	 Date: October 4, 2004

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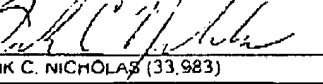
Signature: 
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FRANK C. NICHOLAS (33,983)
Name of applicant, assignee or registered representative

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October 4, 2004
Date of Signature

PATENT
Case No. GB 000003
(7790/336)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re patent application of:

TIMOTHY J. MOULSLEY, ET AL.

Serial No.: 09/631,353

Filed: AUGUST 2, 2000

For: RADIO COMMUNICATION SYSTEM

Examiner: BARANYAI, L.

Group Art Unit: 2665

APPEAL BRIEF

Mail Stop **Appeal Brief - Patents**
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellant herewith respectfully presents a Brief on Appeal as follows:

TABLE OF CONTENTS

1 REAL PARTY IN INTEREST

The real party in interest is Koninklijke Philips Electronics N.V., a corporation of The Netherlands having an office and a place of business at Groenewoudseweg 1, Eindhoven, Netherlands 5621 BA. Koninklijke Philips Electronics N.V. is the ultimate parent of the assignee of record Philips Electronics North America Corporation, a Delaware corporation having an office and a place of business at 1251 Avenue of the Americas, New York, NY 10020-1104. Philips Electronics North America Corporation intends to further assign this application to Koninklijke Philips Electronics N.V.

2 RELATED APPEALS AND INTERFERENCES

Appellant and the undersigned attorney are not aware of any other appeals or interferences which will directly affect or be directly affected by or having a bearing on the Board's decision in the pending appeal.

3. STATUS OF CLAIMS

Claims 1-16 are currently pending in the present application, and are the claims on appeal. See, Claims Appendix.

4. STATUS OF AMENDMENTS

Appellant filed an final request for reconsideration under 37 C.F.R. §1.116 in response to a Final Office Action dated March 30, 2004.

5. SUMMARY OF THE INVENTION

As illustrated in FIG. 1, a base station 100 of the present application employs a microcontroller 102, a transceiver 104, a power controller 107 and an antenna 106. A secondary station 110 of the present application employs a microcontroller 112, a transceiver 114, a power controller 117 and an antenna 116. See, *U.S. Patent Application Serial No. 09/735,151* at page 4, line 8-18. For purposes of this Appeal Brief, microcontroller 102, transceiver 104 and antenna 106 constitute a base signaling means of base station 100, and power controller 107, transceiver 104 and antenna 106 constitute a base power means of base station 100. Similarly, microcontroller 112, transceiver 114 and antenna 116 constitute a secondary signaling means of each secondary station 110, and power controller 1017, transceiver 114 and antenna 116 constitute a secondary power means of each secondary station 110.

A random access packet channel allocation method as illustrated in FIG. 5 will now be described herein in the context of an interaction between a base station 100 and a secondary station 110. Please note that the base signaling means of base station 100 and the secondary signaling means of secondary station 110 are the structure for performing the functions of the various 35 U.S.C. §112, ¶6 limitations recited in claims 1-10.

During a step 504, the base signaling means of base station 100 transmits a packet channel availability message AV 402 (FIG. 4), which is received by the secondary signaling means of secondary station 100. See, *U.S. Patent Application Serial No. 09/735,151* at page 7, lines 14-27.

During a step 506, the secondary signaling means of secondary station 100 determines whether to repeat step 504 or to proceed to steps 508-514 based on the available channel(s) and bit rate(s) indicated by AV message 402. See, *U.S Patent Application Serial No. 09/735,151* at page 7, line 28 to page 8, line 2.

Upon a determination to proceed to steps 508-514, the secondary signaling means and the secondary power means of secondary station 110 transmits a signature encoded access preamble (P) 202 (FIG. 4) at increasing power levels until such time the secondary signaling means receives an acknowledgment (A) 206 (FIG. 4) or a negative acknowledgment (A) 206 from base station 100. See, *U.S Patent Application Serial No. 09/735,151* at page 8, lines 3-21.

For embodiments where several physical channels are mapped to signature encoded access preamble 202, the base signaling means of base station 100 can include a channel allocation message, in part or in whole, in a positive acknowledgement 206. See, *U S Patent Application Serial No. 09/735,151* at page 7, lines 3-8; and page 10, line 12 to page 11, line 20.

Assuming acknowledgment 206 was positive, during a step 516, the secondary signaling means of secondary station 110 transmits a signature encoded contention access preamble (P) 208 (FIG. 4) and during a step 518, awaits a contention acknowledgement (CA) 210 (FIG. 4) from the base signaling means of base station 100. See, *U.S. Patent Application Serial No 09/735,151* at page 8, line 22 to page 9, line 2.

For embodiments where several physical channels are mapped to signature encoded contention access preamble 208, the base signaling means of base station 100 can include a channel allocation message, in part or in whole, in contention acknowledgement 210 and/or in a transmission of a channel code by the base signaling means of base station 100. See, *U S Patent Application Serial No. 09/735,151* at page 7, lines 3-8; and page 10, line 12 to page 11, line 20.

Upon receiving contention acknowledgment 210, the signaling means of the secondary station 110 will begin to transmit a data packet during a step 520 in accordance with the received channel allocation message. See, *U.S. Patent Application Serial No. 09/735,151* at page 9, lines 3-10.

Thus, at one extreme, one channel allocation message is transmitted by the base signaling means of base station 100 to the secondary signaling means of secondary station 110 either (1) as a complete message with acknowledgement 204, (2) as a complete message with contention acknowledgment 210, (3) as a complete message with the channel code, or (4) as a divided message among two or more of acknowledgement 204, contention acknowledgment 210 and/or the channel code.

At the other extreme, a channel allocation message is sent by the base signaling means of base station 100 to the secondary signaling means of secondary station 110 in its entirety during each of acknowledgement 204, contention acknowledgment 210 and the channel code for at total of three (3) transmissions.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-7, 9, and 11-15 stand finally rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No 6,111,869 to *Esmailzadeh* et al. in view of U.S. Patent No 6,389,056 to *Kanterakis* et al.

Claims 8, 10 and 16 stand finally rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,111,869 to *Esmailzadeh* et al. in view of U.S. Patent No. 6,389,056 to *Kanterakis* et al. and in further view of U.S Patent No. 6,643,275 to *Gustafsson* et al

7. ARGUMENT

Esmailzadeh. Generally, *Esmailzadeh* teaches away from any type of contention resolution alert signal and response being communicated between a secondary station (e.g., secondary stations 110-112 shown in FIG. 1) and a primary station (e.g., base station 100 shown in FIG. 1) by devising a collision-free technique that omits a contention resolution phase after each transmission of a data transmission schedule by the primary station is received by the secondary station(s). This contention resolution free technique of *Esmailzadeh* relies on data transmission schedules based on orthogonal codes

Specifically, *Esmailzadeh* teaches "[A] method of mobile communication includes determining schedules for transmitting and receiving data, and transmitting and receiving data between a base station and a plurality of mobile terminals according to the schedules. Particular orthogonal codes are transmitted from mobile stations to the base station as alert signals indicating the presence of data to be transmitted. The base station checks whether particular orthogonal codes are contained in the alert signals transmitted from the mobile terminals to the base station. When the particular orthogonal codes are detected in the alert signals transmitted from the mobile stations to the base station, data representing the detected orthogonal codes and the schedules for transmitting the data from the mobile terminals to the base station are transmitted from the base station to the

mobile terminals as an alert response in response to the alert signals. When the data representing the orthogonal codes used for the alert signals transmitted from the mobile terminals to the base station are contained in the alert response transmitted from the base station to the mobile terminals, the data transmission schedules in the alert response are read out at the mobile terminals and the data are transmitted from the mobile terminals to the base station according the schedules that are read out.

When the data are to be transmitted and received between the base station and the mobile terminals according to the above-mentioned mobile communication method, mobile terminals which intend to transmit data select and generate particular orthogonal codes out of a plurality of orthogonal codes, and transmit these generated orthogonal codes to the base station as alert signals indicating the presence of data that are to be transmitted. Here, the orthogonal codes transmitted as alert signals from the mobile terminals to the base station are such codes that the inner products of the same codes assume particular values but the inner products of different codes assume a value of zero.

The base station that has received the alert signals generates orthogonal codes and checks whether these generated orthogonal codes are contained in the alert signals transmitted from the mobile terminals to the base station. When the orthogonal codes generated by the base station are detected in the alert signals transmitted from the mobile terminals to the base station, the base station that has received the alert signals

determines schedules for transmitting the data from the mobile terminals to the base station. Then the base station transmits, to the mobile terminals, the data representing the detected orthogonal codes and the determined schedules for transmitting data from the mobile terminals to the base station as an alert response to the alert signals.

Upon receiving the alert response, the mobile terminals compare the orthogonal codes transmitted from the mobile terminals to the base station with orthogonal codes represented by the data stored in the alert response, and check if the data representing the orthogonal codes used in the alert signals transmitted from the mobile terminals to the base station are contained in the alert response transmitted from the base station to the mobile terminals. When the data representing the orthogonal codes used by a mobile terminal as its alert signal are contained in the alert response from the base station, the data transmission schedules in the alert response are read out by the mobile terminal, and the data are transmitted from the mobile terminal to the base station according to the schedules that are read out.

According to the mobile communication method as described above, the data are transmitted and received after the schedules are determined by alert signals of orthogonal codes Therefore, an efficient communication of data can be accomplished between the base station and the plurality of mobile terminals." See, *Esmailzadeh* at column 3, line 24 to column 4, line 30.

The aforementioned is encompassed by steps 1101-1104 of FIG. 11 of *Esmailzadeh* and steps 1201-1203 of FIG. 12 of *Esmailzadeh*. If *Esmailzadeh* was to incorporate a contention resolution phase as asserted by Examiner *Baranyai*, then such a contention resolution phase would have to occur before step 1105 of FIG. 11 of *Esmailzadeh* and step 1204 of FIG. 12 of *Esmailzadeh*. However, *Esmailzadeh* was aware of the problems caused by collisions in terms of secondary station(s) having to repeatedly transmit reservation packets. See, *Esmailzadeh* at column 2, line 10 column 3, line 8.

To avoid collisions, *Esmailzadeh* thus teaches "the alert signals transmitted from the mobile terminals to the base station are multiplied by each of a plurality of orthogonal codes generated in the base station in order to check whether particular orthogonal codes are contained in the alert signals. The base station generates a plurality of orthogonal codes upon receiving alert signals from the mobile terminals, multiplies the alert signals transmitted from the mobile terminals to the base station by each of a plurality of orthogonal codes generated by the base station, and detects orthogonal codes in the alert signals that are received based upon the results of multiplication.

When a plurality of mobile terminals simultaneously transmit alert signals to the base station, a plurality of orthogonal codes are contained in the alert signals received by the base station. Here, however, the inner products of the same orthogonal codes assume particular values and the inner products of different orthogonal codes assume a value of zero. Therefore, the alert signals containing a plurality of orthogonal codes are multiplied by each of a plurality of orthogonal codes generated by the base station, and the results of multiplication are checked for each of the orthogonal codes. Even when the plurality of orthogonal codes are contained in the alert signals, therefore, it is possible to check if particular orthogonal codes are contained.

According to the mobile communication method as described above, the results of multiplication of the same orthogonal codes assume particular values and the results of multiplication of different orthogonal codes assume a value of zero. This makes it possible to detect the individual alert signals even when the plurality of alert signals are transmitted from a plurality of mobile terminals to the base station." See, *Esmailzadeh* at column 4, lines 32-67.

The benefit by *Esmailzadeh* in view of the capability of always being able to detect each alert signal is that a contention resolution phase is unnecessary prior to any implementation of step 1105 of FIG. 11 of *Esmailzadeh* and step 1204 of FIG. 12 of *Esmailzadeh*. Additionally, as illustrated in FIG. 12 of *Esmailzadeh*, if no data packets are received by the primary station during a step 1204 or if there are any errors in the received data packets as detected by the primary station during a step 1206, then *Esmailzadeh* teaches a re-scheduling by the primary station during a step 1205 or a step 1207, respectively, that does not involve any transmission of alert signals by a secondary station during steps 1105 and 1106 shown in FIG. 11 of *Esmailzadeh*.

Moreover, an incorporation of a contention resolution phase before step 1105 of FIG. 11 of *Esmailzadeh* and step 1204 of FIG. 12 of *Esmailzadeh* would cause a primary station to generate a contention data transmission schedule in response to the contention resolution alert signals. Thus, the secondary stations would all have the initial data transmission schedule related to the initial alert signals and the contention data transmission schedule related to the contention resolution alert signals. As such, when implementing step 1105, *Esmailzadeh* would have to device a scheme whereby each secondary station would have to know which of the data transmission schedules to follow to avoid any collisions that would occur if secondary stations are following different data transmission schedules. This is not efficient in view of the goals and objectives of *Esmailzadeh*.

Thus, *Esmailzadeh* clearly fails to disclose and teaches away from any type of contention resolution alert signal(s) and response being communicated between the secondary station(s) and the primary station. This is indisputable in view of the facts (1) that one of *Esmailzadeh's* objective is avoid collisions and the repeated transmissions of alerts signals as experienced by the prior art, and (2) any incorporation in *Esmailzadeh* of a contention resolution alert signal and response being communicated between the secondary station(s) and the primary station would change the principle operation of *Esmailzadeh* directed to eliminating a need for a contention resolution phase by having the capability to detect each alert signal, which also makes a transmission of a random access channel status message from secondary stations unnecessary.

Obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See, MPEP §2143.

Furthermore, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (Claims were directed to an oil seal comprising a bore engaging portion with outwardly biased resilient spring fingers inserted in a resilient sealing member. The primary reference relied upon in a rejection based on a combination of references disclosed an oil seal wherein the bore engaging portion was reinforced by a cylindrical sheet metal casing. Patentee taught the device required rigidity for operation, whereas the claimed invention required resiliency The court reversed the rejection holding the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." 270 F.2d at 813, 123 USPQ at 352.). See, MPEP §2143.01

Claims 1, 2, 3, 4, 9, 11, and 12. The Appellant respectfully asserts that is no suggestion or motivation to modify *Esmailzadeh* in view of *Kanterakis* as asserted by Examiner Baranyai to render obvious the limitations of claims 1, 2, 3, 4, 9, 11 and 12, because *Esmailzadeh* teaches away from the following limitations of independent claims 1, 3, 9 and 11:

1. "wherein the secondary station includes means for subsequently transmitting a contention resolution signal encoded with a second signature", and "wherein the primary station includes means for transmitting a further response to the contention resolution signal" as recited in independent claim 1;

2. "means for transmitting a further response to a subsequent contention resolution signal encoded with a second signature transmitted by the secondary station" as recited in independent claim 3;

3. "means for receiving a response from the primary station and subsequently transmitting a contention resolution signal encoded with a second signature" as recited in independent claim 9; and

4. "the secondary station subsequently transmitting a contention resolution signal encoded with a second signature", and "the primary station transmitting a further response to the contention resolution signal" as recited in independent claim 11.

Withdrawal of the rejection of claims 1, 2, 3, 4, 9, 11 and 12 under 35 U.S.C. §103(a) as being unpatentable over *Esmailzadeh* in view of *Kanterakis* is therefore respectfully requested.

Claims 5 and 13. The Appellant respectfully asserts that is no suggestion or motivation to modify *Esmailzadeh* in view of *Kanterakis* as asserted by Examiner Baranyai to render obvious the limitations of claims 5 and 13, because *Esmailzadeh* teaches away from the following limitations of claims 5 and 13:

1. "means for transmitting the channel allocation signal at the same time as each of the responses" as recited in dependent claim 5; and

2. "the primary station transmitting the channel allocation signal at the same time as each of the responses" as recited in dependent claim 13.

Withdrawal of the rejection of claims 5 and 13 under 35 U.S.C. §103(a) as being unpatentable over *Esmailzadeh* in view of *Kanterakis* is therefore respectfully requested.

Claims 6 and 14. The Appellant respectfully asserts that is no suggestion or motivation to modify *Esmailzadeh* in view of *Kanterakis* as asserted by Examiner Baranyai to render obvious the limitations of claims 6 and 14, because *Esmailzadeh* teaches away from the following limitations of claims 6 and 14:

1. "means for subdividing the channel allocation signal into a plurality of portions" and "means for transmitting each of the portions at the same time as a respective one of the responses" as recited in dependent claim 6; and

2. "the primary station subdividing the channel allocation signaling into a plurality of portions" and "the primary station transmitting each of the portions at the same time as a respective one of the responses" as recited in dependent claim 14.

Withdrawal of the rejection of claims 6 and 14 under 35 U.S.C §103(a) as being unpatentable over *Esmailzadeh* in view of *Kanterakis* is therefore respectfully requested.

Claims 7 and 15. The Appellant respectfully asserts that is no suggestion or motivation to modify *Esmailzadeh* in view of *Kanterakis* as asserted by Examiner Baranyai to render obvious the limitations of claims 7 and 15, because *Esmailzadeh* teaches away from the following limitations of claims 7 and 15:

1. "means for including the channel allocation signal as part of the or each response" as recited in dependent claim 7; and

2. "the primary station including the allocation signaling as part of the or each response" as recited in dependent claim 15.

Withdrawal of the rejection of claims 7 and 15 under 35 U.S.C. §103(a) as being unpatentable over *Esmailzadeh* in view of *Kanterakis* is therefore respectfully requested.

Claims 8, 10 and 16. The Appellant respectfully asserts that is no suggestion or motivation to modify *Esmailzadeh* in view of *Kanterakis* and in further view of *Gustafsson* as asserted by Examiner Baranyai to render obvious the limitations of claims 8, 10 and 16, because *Esmailzadeh* teaches away from the following limitations of claims 8, 10 and 16:

1. "means for transmitting a random access channel status message indicating the highest data rate available on the random access channel" as recited in dependent claim 8;

2. "means for receiving from the primary station a random access channel status message indicating the availability of random access channel resources" and "means for using the status message as a check on the channel allocation signal before initial transmission of data" as recited in dependent claim 10; and

3. "the primary station transmitting a random access channel status message indicating the highest data rate available on the random access channel" as recited in dependent claim 16.

Withdrawal of the rejection of claims 8, 10 and 16 under 35 U.S.C. §103(a) as being unpatentable over *Esmailzadeh* in view of *Kanterakis* and in further view of *Gustafsson* is therefore respectfully requested.

Dated: **October 4, 2004**

Respectfully submitted,
TIMOTHY J. MOULSLEY, *et al.*

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CLAIMS APPENDIX

1. A radio communication system, comprising:

a primary station;

a secondary station;

a random access channel for the transmission of data from the secondary station to the primary station;

wherein the secondary station includes means for requesting access to a random access channel resource by transmitting a signal encoded with a first signature corresponding to the resource;

wherein the primary station includes means for transmitting a response to the request,

wherein the secondary station includes means for subsequently transmitting a contention resolution signal encoded with a second signature; and

wherein the primary station includes means for transmitting a further response to the contention resolution signal, means for selecting a random access channel to which the secondary station will be granted access, and means for transmitting a channel allocation signal identifying this channel at the same time as at least one of the responses.

2 The system as claimed in claim 1, wherein the random access channel is adapted for transmission of data in packets.

3. A primary station for use in a radio communication system including a random access channel for the transmission of data from a secondary station to the primary station, the primary station comprising:

means for transmitting a response to a request from the secondary station for access to a random access channel resource, wherein the request includes transmission of a signal encoded with a first signature;

means for transmitting a further response to a subsequent contention resolution signal encoded with a second signature transmitted by the secondary station;

means for selecting a random access channel to which the secondary station will be granted access; and

means for transmitting a channel allocation signal identifying this channel at the same time as at least one of the responses.

4. The primary station as claimed in claim 3, further comprising.

means for transmitting a further response to a further contention resolution signal transmitted by the secondary station.

5. The primary station as claimed in claim 3, further comprising:

means for transmitting the channel allocation signal at the same time as each of the responses.

6. The primary station as claimed in claim 3, further comprising:

means for subdividing the channel allocation signal into a plurality of portions; and

means for transmitting each of the portions at the same time as a respective one of the responses.

7. The primary station as claimed in claim 3, further comprising:

means for including the channel allocation signal as part of the or each response.

8. The primary station as claimed in claim 3, further comprising:

means for transmitting a random access channel status message indicating the highest data rate available on the random access channel.

9. A secondary station for use in a radio communication system including a random access channel for the transmission of data to a primary station, the secondary station comprising:

means for requesting access to a random access channel resource by transmitting a signal encoded with a first signature corresponding to the resource;

means for receiving a response from the primary station and subsequently transmitting a contention resolution signal encoded with a second signature;

means for receiving a further response from the primary station; and

means for determining which channel has been allocated from a channel allocation signal transmitted by the primary station at the same time as at least one of the responses.

10. The secondary station as claimed in claim 9, further comprising:

means for receiving from the primary station a random access channel status message indicating the availability of random access channel resources; and

means for using the status message as a check on the channel allocation signal before initial transmission of data.

11. A method of operating a radio communication system including a random access channel for the transmission of data from a secondary station to a primary station, the method comprising:

the secondary station requesting access to a random access channel resource by transmitting a signal encoded with a first signature corresponding to the resource;

the primary station transmitting a response to the request;

the secondary station subsequently transmitting a contention resolution signal encoded with a second signature;

the primary station transmitting a further response to the contention resolution signal,

the primary station selecting a random access channel to which the secondary station will be granted access; and

the primary station transmitting a channel allocation signal identifying this channel at the same time as at least one of the responses.

12 The method as claimed in claim 11, further comprising:

the secondary station transmitting a further contention resolution signal and the primary station transmitting a further response.

13. The method as claimed in claim 11, further comprising:

the primary station transmitting the channel allocation signal at the same time as each of the responses

14 The method as claimed in claim 11, further comprising:

the primary station subdividing the channel allocation signaling into a plurality of portions; and

the primary station transmitting each of the portions at the same time as a respective one of the responses.

15. The method as claimed in claim 11, further comprising:

the primary station including the allocation signaling as part of the or each response.

16 The method as claimed in claim 11, further comprising:

the primary station transmitting a random access channel status message indicating the highest data rate available on the random access channel.

EVIDENCE APPENDIX

None.

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(Date of Deposit)

FRANK C. NICHOLAS (33,983)
Name of applicant, assignee or registered representative

Signature

October 4, 2004
Date of Signature

PATENT
Case No. GB 000003
(7790/336)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re patent application of:

TIMOTHY J. MOULSLEY, ET AL.

Serial No.: 09/631,353

Filed: AUGUST 2, 2000

For: RADIO COMMUNICATION SYSTEM

Examiner: BARANYAI, L.

Group Art Unit: 2665

APPEAL BRIEF

Mail Stop **Appeal Brief - Patents**
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellant herewith respectfully presents a Brief on Appeal as follows:

TABLE OF CONTENTS

1 REAL PARTY IN INTEREST

The real party in interest is Koninklijke Philips Electronics N.V , a corporation of The Netherlands having an office and a place of business at Groenewoudseweg 1, Eindhoven, Netherlands 5621 BA. Koninklijke Philips Electronics N.V. is the ultimate parent of the assignee of record Philips Electronics North America Corporation, a Delaware corporation having an office and a place of business at 1251 Avenue of the Americas, New York, NY 10020-1104. Philips Electronics North America Corporation intends to further assign this application to Koninklijke Philips Electronics N.V.

2 RELATED APPEALS AND INTERFERENCES

Appellant and the undersigned attorney are not aware of any other appeals or interferences which will directly affect or be directly affected by or having a bearing on the Board's decision in the pending appeal

3. STATUS OF CLAIMS

Claims 1-16 are currently pending in the present application, and are the claims on appeal. See, Claims Appendix.

4. STATUS OF AMENDMENTS

Appellant filed an final request for reconsideration under 37 C.F.R. §1.116 in response to a Final Office Action dated March 30, 2004

5. SUMMARY OF THE INVENTION

As illustrated in FIG 1, a base station 100 of the present application employs a microcontroller 102, a transceiver 104, a power controller 107 and an antenna 106. A secondary station 110 of the present application employs a microcontroller 112, a transceiver 114, a power controller 117 and an antenna 116. See, *U.S. Patent Application Serial No 09/735,151* at page 4, line 8-18. For purposes of this Appeal Brief, microcontroller 102, transceiver 104 and antenna 106 constitute a base signaling means of base station 100, and power controller 107, transceiver 104 and antenna 106 constitute a base power means of base station 100. Similarly, microcontroller 112, transceiver 114 and antenna 116 constitute a secondary signaling means of each secondary station 110, and power controller 1017, transceiver 114 and antenna 116 constitute a secondary power means of each secondary station 110.

A random access packet channel allocation method as illustrated in FIG 5 will now be described herein in the context of an interaction between a base station 100 and a secondary station 110. Please note that the base signaling means of base station 100 and the secondary signaling means of secondary station 110 are the structure for performing the functions of the various 35 U.S.C §112, ¶6 limitations recited in claims 1-10.

During a step 504, the base signaling means of base station 100 transmits a packet channel availability message AV 402 (FIG. 4), which is received by the secondary signaling means of secondary station 100. See, *U.S Patent Application Serial No. 09/735,151* at page 7, lines 14-27 .

During a step 506, the secondary signaling means of secondary station 100 determines whether to repeat step 504 or to proceed to steps 508-514 based on the available channel(s) and bit rate(s) indicated by AV message 402. See, *U.S. Patent Application Serial No 09/735,151* at page 7, line 28 to page 8, line 2.

Upon a determination to proceed to steps 508-514, the secondary signaling means and the secondary power means of secondary station 110 transmits a signature encoded access preamble (P) 202 (FIG. 4) at increasing power levels until such time the secondary signaling means receives an acknowledgment (A) 206 (FIG. 4) or a negative acknowledgment (A) 206 from base station 100. See, *U S Patent Application Serial No. 09/735,151* at page 8, lines 3-21.

For embodiments where several physical channels are mapped to signature encoded access preamble 202, the base signaling means of base station 100 can include a channel allocation message, in part or in whole, in a positive acknowledgement 206. See, *U S. Patent Application Serial No. 09/735,151* at page 7, lines 3-8; and page 10, line 12 to page 11, line 20.

Assuming acknowledgment 206 was positive, during a step 516, the secondary signaling means of secondary station 110 transmits a signature encoded contention access preamble (P) 208 (FIG. 4) and during a step 518, awaits a contention acknowledgement (CA) 210 (FIG. 4) from the base signaling means of base station 100. See, *U S Patent Application Serial No 09/735,151* at page 8, line 22 to page 9, line 2.

For embodiments where several physical channels are mapped to signature encoded contention access preamble 208, the base signaling means of base station 100 can include a channel allocation message, in part or in whole, in contention acknowledgement 210 and/or in a transmission of a channel code by the base signaling means of base station 100. See, *U.S. Patent Application Serial No 09/735,151* at page 7, lines 3-8; and page 10, line 12 to page 11, line 20.

Upon receiving contention acknowledgment 210, the signaling means of the secondary station 110 will begin to transmit a data packet during a step 520 in accordance with the received channel allocation message. See, *U.S. Patent Application Serial No. 09/735,151* at page 9, lines 3-10.

Thus, at one extreme, one channel allocation message is transmitted by the base signaling means of base station 100 to the secondary signaling means of secondary station 110 either (1) as a complete message with acknowledgement 204, (2) as a complete message with contention acknowledgment 210, (3) as a complete message with the channel code, or (4) as a divided message among two or more of acknowledgement 204, contention acknowledgment 210 and/or the channel code.

At the other extreme, a channel allocation message is sent by the base signaling means of base station 100 to the secondary signaling means of secondary station 110 in its entirety during each of acknowledgement 204, contention acknowledgment 210 and the channel code for at total of three (3) transmissions.

6 GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-7, 9, and 11-15 stand finally rejected under 35 U.S.C §103(a) as being unpatentable over U.S. Patent No. 6,111,869 to *Esmailzadeh* et al. in view of U.S. Patent No 6,389,056 to *Kanterakis* et al.

Claims 8, 10 and 16 stand finally rejected under 35 U S.C. §103(a) as being unpatentable over U S Patent No 6,111,869 to *Esmailzadeh* et al. in view of U.S. Patent No. 6,389,056 to *Kanterakis* et al and in further view of U.S Patent No. 6,643,275 to *Gustafsson* et al

7. ARGUMENT

Esmailzadeh. Generally, *Esmailzadeh* teaches away from any type of contention resolution alert signal and response being communicated between a secondary station (e.g., secondary stations 110-112 shown in FIG. 1) and a primary station (e.g., base station 100 shown in FIG. 1) by devising a collision-free technique that omits a contention resolution phase after each transmission of a data transmission schedule by the primary station is received by the secondary station(s). This contention resolution free technique of *Esmailzadeh* relies on data transmission schedules based on orthogonal codes.

Specifically, *Esmailzadeh* teaches "[A] method of mobile communication includes determining schedules for transmitting and receiving data, and transmitting and receiving data between a base station and a plurality of mobile terminals according to the schedules. Particular orthogonal codes are transmitted from mobile stations to the base station as alert signals indicating the presence of data to be transmitted. The base station checks whether particular orthogonal codes are contained in the alert signals transmitted from the mobile terminals to the base station. When the particular orthogonal codes are detected in the alert signals transmitted from the mobile stations to the base station, data representing the detected orthogonal codes and the schedules for transmitting the data from the mobile terminals to the base station are transmitted from the base station to the

mobile terminals as an alert response in response to the alert signals. When the data representing the orthogonal codes used for the alert signals transmitted from the mobile terminals to the base station are contained in the alert response transmitted from the base station to the mobile terminals, the data transmission schedules in the alert response are read out at the mobile terminals and the data are transmitted from the mobile terminals to the base station according the schedules that are read out.

When the data are to be transmitted and received between the base station and the mobile terminals according to the above-mentioned mobile communication method, mobile terminals which intend to transmit data select and generate particular orthogonal codes out of a plurality of orthogonal codes, and transmit these generated orthogonal codes to the base station as alert signals indicating the presence of data that are to be transmitted. Here, the orthogonal codes transmitted as alert signals from the mobile terminals to the base station are such codes that the inner products of the same codes assume particular values but the inner products of different codes assume a value of zero.

The base station that has received the alert signals generates orthogonal codes and checks whether these generated orthogonal codes are contained in the alert signals transmitted from the mobile terminals to the base station. When the orthogonal codes generated by the base station are detected in the alert signals transmitted from the mobile terminals to the base station, the base station that has received the alert signals

determines schedules for transmitting the data from the mobile terminals to the base station. Then the base station transmits, to the mobile terminals, the data representing the detected orthogonal codes and the determined schedules for transmitting data from the mobile terminals to the base station as an alert response to the alert signals.

Upon receiving the alert response, the mobile terminals compare the orthogonal codes transmitted from the mobile terminals to the base station with orthogonal codes represented by the data stored in the alert response, and check if the data representing the orthogonal codes used in the alert signals transmitted from the mobile terminals to the base station are contained in the alert response transmitted from the base station to the mobile terminals. When the data representing the orthogonal codes used by a mobile terminal as its alert signal are contained in the alert response from the base station, the data transmission schedules in the alert response are read out by the mobile terminal, and the data are transmitted from the mobile terminal to the base station according to the schedules that are read out.

According to the mobile communication method as described above, the data are transmitted and received after the schedules are determined by alert signals of orthogonal codes. Therefore, an efficient communication of data can be accomplished between the base station and the plurality of mobile terminals." See, *Esmailzadeh* at column 3, line 24 to column 4, line 30.

The aforementioned is encompassed by steps 1101-1104 of FIG 11 of *Esmailzadeh* and steps 1201-1203 of FIG. 12 of *Esmailzadeh* If *Esmailzadeh* was to incorporate a contention resolution phase as asserted by Examiner *Baranyai*, then such a contention resolution phase would have to occur before step 1105 of FIG. 11 of *Esmailzadeh* and step 1204 of FIG. 12 of *Esmailzadeh*. However, *Esmailzadeh* was aware of the problems caused by collisions in terms of secondary station(s) having to repeatedly transmit reservation packets See, *Esmailzadeh* at column 2, line to column 3, line 8

To avoid collisions, *Esmailzadeh* thus teaches "the alert signals transmitted from the mobile terminals to the base station are multiplied by each of a plurality of orthogonal codes generated in the base station in order to check whether particular orthogonal codes are contained in the alert signals. The base station generates a plurality of orthogonal codes upon receiving alert signals from the mobile terminals, multiplies the alert signals transmitted from the mobile terminals to the base station by each of a plurality of orthogonal codes generated by the base station, and detects orthogonal codes in the alert signals that are received based upon the results of multiplication.

When a plurality of mobile terminals simultaneously transmit alert signals to the base station, a plurality of orthogonal codes are contained in the alert signals received by the base station. Here, however, the inner products of the same orthogonal codes assume particular values and the inner products of different orthogonal codes assume a value of zero. Therefore, the alert signals containing a plurality of orthogonal codes are multiplied by each of a plurality of orthogonal codes generated by the base station, and the results of multiplication are checked for each of the orthogonal codes. Even when the plurality of orthogonal codes are contained in the alert signals, therefore, it is possible to check if particular orthogonal codes are contained.

According to the mobile communication method as described above, the results of multiplication of the same orthogonal codes assume particular values and the results of multiplication of different orthogonal codes assume a value of zero. This makes it possible to detect the individual alert signals even when the plurality of alert signals are transmitted from a plurality of mobile terminals to the base station." See, *Esmailzadeh* at column 4, lines 32-67.

The benefit by *Esmailzadeh* in view of the capability of always being able to detect each alert signal is that a contention resolution phase is unnecessary prior to any implementation of step 1105 of FIG. 11 of *Esmailzadeh* and step 1204 of FIG. 12 of *Esmailzadeh*. Additionally, as illustrated in FIG. 12 of *Esmailzadeh*, if no data packets are received by the primary station during a step 1204 or if there are any errors in the received data packets as detected by the primary station during a step 1206, then *Esmailzadeh* teaches a re-scheduling by the primary station during a step 1205 or a step 1207, respectively, that does not involve any transmission of alert signals by a secondary station during steps 1105 and 1106 shown in FIG. 11 of *Esmailzadeh*.

Moreover, an incorporation of a contention resolution phase before step 1105 of FIG 11 of *Esmailzadeh* and step 1204 of FIG. 12 of *Esmailzadeh* would cause a primary station to generate a contention data transmission schedule in response to the contention resolution alert signals Thus, the secondary stations would all have the initial data transmission schedule related to the initial alert signals and the contention data transmission schedule related to the contention resolution alert signals. As such, when implementing step 1105, *Esmailzadeh* would have to device a scheme whereby each secondary station would have to know which of the data transmission schedules to follow to avoid any collisions that would occur if secondary stations are following different data transmission schedules. This is not efficient in view of the goals and objectives of *Esmailzadeh*.

Thus, *Esmailzadeh* clearly fails to disclose and teaches away from any type of contention resolution alert signal(s) and response being communicated between the secondary station(s) and the primary station. This is indisputable in view of the facts (1) that one of *Esmailzadeh's* objective is avoid collisions and the repeated transmissions of alerts signals as experienced by the prior art, and (2) any incorporation in *Esmailzadeh* of a contention resolution alert signal and response being communicated between the secondary station(s) and the primary station would change the principle operation of *Esmailzadeh* directed to eliminating a need for a contention resolution phase by having the capability to detect each alert signal, which also makes a transmission of a random access channel status message from secondary stations unnecessary.

Obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See, MPEP §2143.

Furthermore, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F 2d 810, 123 USPQ 349 (CCPA 1959) (Claims were directed to an oil seal comprising a bore engaging portion with outwardly biased resilient spring fingers inserted in a resilient sealing member. The primary reference relied upon in a rejection based on a combination of references disclosed an oil seal wherein the bore engaging portion was reinforced by a cylindrical sheet metal casing. Patentee taught the device required rigidity for operation, whereas the claimed invention required resiliency. The court reversed the rejection holding the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." 270 F 2d at 813, 123 USPQ at 352.). See, MPEP §2143.01

Claims 1, 2, 3, 4, 9, 11, and 12 The Appellant respectfully asserts that is no suggestion or motivation to modify *Esmailzadeh* in view of *Kanterakis* as asserted by Examiner Baranyai to render obvious the limitations of claims 1, 2, 3, 4, 9, 11 and 12, because *Esmailzadeh* teaches away from the following limitations of independent claims 1, 3, 9 and 11.

1. "wherein the secondary station includes means for subsequently transmitting a contention resolution signal encoded with a second signature", and "wherein the primary station includes means for transmitting a further response to the contention resolution signal" as recited in independent claim 1;

2 "means for transmitting a further response to a subsequent contention resolution signal encoded with a second signature transmitted by the secondary station" as recited in independent claim 3;

3 "means for receiving a response from the primary station and subsequently transmitting a contention resolution signal encoded with a second signature" as recited in independent claim 9; and

4 "the secondary station subsequently transmitting a contention resolution signal encoded with a second signature", and "the primary station transmitting a further response to the contention resolution signal" as recited in independent claim 11.

Withdrawal of the rejection of claims 1, 2, 3, 4, 9, 11 and 12 under 35 U.S.C. §103(a) as being unpatentable over *Esmailzadeh* in view of *Kanterakis* is therefore respectfully requested.

Claims 5 and 13. The Appellant respectfully asserts that is no suggestion or motivation to modify *Esmailzadeh* in view of *Kanterakis* as asserted by Examiner Baranyai to render obvious the limitations of claims 5 and 13, because *Esmailzadeh* teaches away from the following limitations of claims 5 and 13:

1. "means for transmitting the channel allocation signal at the same time as each of the responses" as recited in dependent claim 5; and

2. "the primary station transmitting the channel allocation signal at the same time as each of the responses" as recited in dependent claim 13.

Withdrawal of the rejection of claims 5 and 13 under 35 U.S.C. §103(a) as being unpatentable over *Esmailzadeh* in view of *Kanterakis* is therefore respectfully requested.

Claims 6 and 14. The Appellant respectfully asserts that is no suggestion or motivation to modify *Esmailzadeh* in view of *Kanterakis* as asserted by Examiner Baranyai to render obvious the limitations of claims 6 and 14, because *Esmailzadeh* teaches away from the following limitations of claims 6 and 14:

1 "means for subdividing the channel allocation signal into a plurality of portions" and "means for transmitting each of the portions at the same time as a respective one of the responses" as recited in dependent claim 6, and

2. "the primary station subdividing the channel allocation signaling into a plurality of portions" and "the primary station transmitting each of the portions at the same time as a respective one of the responses" as recited in dependent claim 14.

Withdrawal of the rejection of claims 6 and 14 under 35 U.S.C. §103(a) as being unpatentable over *Esmailzadeh* in view of *Kanterakis* is therefore respectfully requested.

Claims 7 and 15. The Appellant respectfully asserts that is no suggestion or motivation to modify *Esmailzadeh* in view of *Kanterakis* as asserted by Examiner Baranyai to render obvious the limitations of claims 7 and 15, because *Esmailzadeh* teaches away from the following limitations of claims 7 and 15:

1. "means for including the channel allocation signal as part of the or each response" as recited in dependent claim 7; and

2 "the primary station including the allocation signaling as part of the or each response" as recited in dependent claim 15.

Withdrawal of the rejection of claims 7 and 15 under 35 U.S.C. §103(a) as being unpatentable over *Esmailzadeh* in view of *Kanterakis* is therefore respectfully requested.

Claims 8, 10 and 16. The Appellant respectfully asserts that is no suggestion or motivation to modify *Esmailzadeh* in view of *Kanterakis* and in further view of *Gustafsson* as asserted by Examiner Baranyai to render obvious the limitations of claims 8, 10 and 16, because *Esmailzadeh* teaches away from the following limitations of claims 8, 10 and 16:

1. "means for transmitting a random access channel status message indicating the highest data rate available on the random access channel" as recited in dependent claim 8;

2. "means for receiving from the primary station a random access channel status message indicating the availability of random access channel resources" and "means for using the status message as a check on the channel allocation signal before initial transmission of data" as recited in dependent claim 10; and

3. "the primary station transmitting a random access channel status message indicating the highest data rate available on the random access channel" as recited in dependent claim 16.

Withdrawal of the rejection of claims 8, 10 and 16 under 35 U.S.C. §103(a) as being unpatentable over *Esmailzadeh* in view of *Kanterakis* and in further view of *Gustafsson* is therefore respectfully requested.

Dated: **October 4, 2004**

Respectfully submitted,
TIMOTHY J. MOULSLEY, *et al.*

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CLAIMS APPENDIX

1 A radio communication system, comprising:

a primary station;

a secondary station;

a random access channel for the transmission of data from the secondary station to the primary station;

wherein the secondary station includes means for requesting access to a random access channel resource by transmitting a signal encoded with a first signature corresponding to the resource;

wherein the primary station includes means for transmitting a response to the request,

wherein the secondary station includes means for subsequently transmitting a contention resolution signal encoded with a second signature; and

wherein the primary station includes means for transmitting a further response to the contention resolution signal, means for selecting a random access channel to which the secondary station will be granted access, and means for transmitting a channel allocation signal identifying this channel at the same time as at least one of the responses

2 The system as claimed in claim 1, wherein the random access channel is adapted for transmission of data in packets.

3. A primary station for use in a radio communication system including a random access channel for the transmission of data from a secondary station to the primary station, the primary station comprising

means for transmitting a response to a request from the secondary station for access to a random access channel resource, wherein the request includes transmission of a signal encoded with a first signature,

means for transmitting a further response to a subsequent contention resolution signal encoded with a second signature transmitted by the secondary station;

means for selecting a random access channel to which the secondary station will be granted access; and

means for transmitting a channel allocation signal identifying this channel at the same time as at least one of the responses.

4 The primary station as claimed in claim 3, further comprising:

means for transmitting a further response to a further contention resolution signal transmitted by the secondary station.

5. The primary station as claimed in claim 3, further comprising:

means for transmitting the channel allocation signal at the same time as each of the responses

6. The primary station as claimed in claim 3, further comprising:

means for subdividing the channel allocation signal into a plurality of portions; and

means for transmitting each of the portions at the same time as a respective one of the responses.

7. The primary station as claimed in claim 3, further comprising:

means for including the channel allocation signal as part of the or each response.

8. The primary station as claimed in claim 3, further comprising

means for transmitting a random access channel status message indicating the highest data rate available on the random access channel

9 A secondary station for use in a radio communication system including a random access channel for the transmission of data to a primary station, the secondary station comprising:

means for requesting access to a random access channel resource by transmitting a signal encoded with a first signature corresponding to the resource;

means for receiving a response from the primary station and subsequently transmitting a contention resolution signal encoded with a second signature;

means for receiving a further response from the primary station; and

means for determining which channel has been allocated from a channel allocation signal transmitted by the primary station at the same time as at least one of the responses.

10. The secondary station as claimed in claim 9, further comprising:

means for receiving from the primary station a random access channel status message indicating the availability of random access channel resources; and

means for using the status message as a check on the channel allocation signal before initial transmission of data.

11 A method of operating a radio communication system including a random access channel for the transmission of data from a secondary station to a primary station, the method comprising:

the secondary station requesting access to a random access channel resource by transmitting a signal encoded with a first signature corresponding to the resource;

the primary station transmitting a response to the request;

the secondary station subsequently transmitting a contention resolution signal encoded with a second signature;

the primary station transmitting a further response to the contention resolution signal;

the primary station selecting a random access channel to which the secondary station will be granted access; and

the primary station transmitting a channel allocation signal identifying this channel at the same time as at least one of the responses.

12. The method as claimed in claim 11, further comprising:

the secondary station transmitting a further contention resolution signal and the primary station transmitting a further response.

13. The method as claimed in claim 11, further comprising:

the primary station transmitting the channel allocation signal at the same time as each of the responses.

14 The method as claimed in claim 11, further comprising:

the primary station subdividing the channel allocation signaling into a plurality of portions; and

the primary station transmitting each of the portions at the same time as a respective one of the responses.

15. The method as claimed in claim 11, further comprising:

the primary station including the allocation signaling as part of the or each response.

16. The method as claimed in claim 11, further comprising:

the primary station transmitting a random access channel status message indicating the highest data rate available on the random access channel.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.

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(Date of Deposit)

FRANK C. NICHOLAS (33,983)
Name of applicant, assignee or registered representative

Signature

October 4, 2004
Date of Signature

PATENT
Case No. GB 000003
(7790/336)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re patent application of:	
TIMOTHY J. MOULSLEY, ET AL	Examiner: BARANYAI, L.
Serial No: 09/631,353	Group Art Unit. 2665
Filed: AUGUST 2, 2000	
For: RADIO COMMUNICATION SYSTEM	

APPEAL BRIEF

Mail Stop **Appeal Brief - Patents**
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir

Appellant herewith respectfully presents a Brief on Appeal as follows:

TABLE OF CONTENTS

1 REAL PARTY IN INTEREST

The real party in interest is Koninklijke Philips Electronics N.V., a corporation of The Netherlands having an office and a place of business at Groenewoudseweg 1, Eindhoven, Netherlands 5621 BA. Koninklijke Philips Electronics N.V. is the ultimate parent of the assignee of record Philips Electronics North America Corporation, a Delaware corporation having an office and a place of business at 1251 Avenue of the Americas, New York, NY 10020-1104. Philips Electronics North America Corporation intends to further assign this application to Koninklijke Philips Electronics N.V.

2. RELATED APPEALS AND INTERFERENCES

Appellant and the undersigned attorney are not aware of any other appeals or interferences which will directly affect or be directly affected by or having a bearing on the Board's decision in the pending appeal.

3. STATUS OF CLAIMS

Claims 1-16 are currently pending in the present application, and are the claims on appeal. See, Claims Appendix.

4. STATUS OF AMENDMENTS

Appellant filed an final request for reconsideration under 37 C.F.R. §1.116 in response to a Final Office Action dated March 30, 2004.

5. SUMMARY OF THE INVENTION

As illustrated in FIG 1, a base station 100 of the present application employs a microcontroller 102, a transceiver 104, a power controller 107 and an antenna 106 A secondary station 110 of the present application employs a microcontroller 112, a transceiver 114, a power controller 117 and an antenna 116. See, *U.S. Patent Application Serial No 09/735,151* at page 4, line 8-18. For purposes of this Appeal Brief, microcontroller 102, transceiver 104 and antenna 106 constitute a base signaling means of base station 100, and power controller 107, transceiver 104 and antenna 106 constitute a base power means of base station 100. Similarly, microcontroller 112, transceiver 114 and antenna 116 constitute a secondary signaling means of each secondary station 110, and power controller 1017, transceiver 114 and antenna 116 constitute a secondary power means of each secondary station 110.

A random access packet channel allocation method as illustrated in FIG. 5 will now be described herein in the context of an interaction between a base station 100 and a secondary station 110. Please note that the base signaling means of base station 100 and the secondary signaling means of secondary station 110 are the structure for performing the functions of the various 35 U.S.C. §112, ¶6 limitations recited in claims 1-10.

During a step 504, the base signaling means of base station 100 transmits a packet channel availability message AV 402 (FIG. 4), which is received by the secondary signaling means of secondary station 100 See, *U S Patent Application Serial No 09/735,151* at page 7, lines 14-27.

During a step 506, the secondary signaling means of secondary station 100 determines whether to repeat step 504 or to proceed to steps 508-514 based on the available channel(s) and bit rate(s) indicated by AV message 402. See, *U.S Patent Application Serial No. 09/735,151* at page 7, line 28 to page 8, line 2.

Upon a determination to proceed to steps 508-514, the secondary signaling means and the secondary power means of secondary station 110 transmits a signature encoded access preamble (P) 202 (FIG. 4) at increasing power levels until such time the secondary signaling means receives an acknowledgment (A) 206 (FIG. 4) or a negative acknowledgment (A) 206 from base station 100. See, *U S Patent Application Serial No. 09/735,151* at page 8, lines 3-21.

For embodiments where several physical channels are mapped to signature encoded access preamble 202, the base signaling means of base station 100 can include a channel allocation message, in part or in whole, in a positive acknowledgement 206. See, *U.S Patent Application Serial No 09/735,151* at page 7, lines 3-8; and page 10, line 12 to page 11, line 20.

Assuming acknowledgment 206 was positive, during a step 516, the secondary signaling means of secondary station 110 transmits a signature encoded contention access preamble (P) 208 (FIG. 4) and during a step 518, awaits a contention acknowledgement (CA) 210 (FIG. 4) from the base signaling means of base station 100. See, *U S Patent Application Serial No. 09/735,151* at page 8, line 22 to page 9, line 2.

For embodiments where several physical channels are mapped to signature encoded contention access preamble 208, the base signaling means of base station 100 can include a channel allocation message, in part or in whole, in contention acknowledgement 210 and/or in a transmission of a channel code by the base signaling means of base station 100. See, *U.S. Patent Application Serial No. 09/735,151* at page 7, lines 3-8, and page 10, line 12 to page 11, line 20.

Upon receiving contention acknowledgment 210, the signaling means of the secondary station 110 will begin to transmit a data packet during a step 520 in accordance with the received channel allocation message. See, *U.S. Patent Application Serial No. 09/735,151* at page 9, lines 3-10.

Thus, at one extreme, one channel allocation message is transmitted by the base signaling means of base station 100 to the secondary signaling means of secondary station 110 either (1) as a complete message with acknowledgement 204, (2) as a complete message with contention acknowledgment 210, (3) as a complete message with the channel code, or (4) as a divided message among two or more of acknowledgement 204, contention acknowledgment 210 and/or the channel code.

At the other extreme, a channel allocation message is sent by the base signaling means of base station 100 to the secondary signaling means of secondary station 110 in its entirety during each of acknowledgement 204, contention acknowledgment 210 and the channel code for at total of three (3) transmissions

6 GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-7, 9, and 11-15 stand finally rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,111,869 to *Esmailzadeh* et al. in view of U.S. Patent No 6,389,056 to *Kanterakis* et al.

Claims 8, 10 and 16 stand finally rejected under 35 U.S C. §103(a) as being unpatentable over U.S. Patent No. 6,111,869 to *Esmailzadeh* et al. in view of U.S. Patent No 6,389,056 to *Kanterakis* et al and in further view of U.S. Patent No. 6,643,275 to *Gustafsson* et al.

7. ARGUMENT

Esmailzadeh. Generally, *Esmailzadeh* teaches away from any type of contention resolution alert signal and response being communicated between a secondary station (e g , secondary stations 110-112 shown in FIG 1) and a primary station (e.g., base station 100 shown in FIG. 1) by devising a collision-free technique that omits a contention resolution phase after each transmission of a data transmission schedule by the primary station is received by the secondary station(s). This contention resolution free technique of *Esmailzadeh* relies on data transmission schedules based on orthogonal codes.

Specifically, *Esmailzadeh* teaches "[A] method of mobile communication includes determining schedules for transmitting and receiving data, and transmitting and receiving data between a base station and a plurality of mobile terminals according to the schedules Particular orthogonal codes are transmitted from mobile stations to the base station as alert signals indicating the presence of data to be transmitted. The base station checks whether particular orthogonal codes are contained in the alert signals transmitted from the mobile terminals to the base station. When the particular orthogonal codes are detected in the alert signals transmitted from the mobile stations to the base station, data representing the detected orthogonal codes and the schedules for transmitting the data from the mobile terminals to the base station are transmitted from the base station to the

mobile terminals as an alert response in response to the alert signals. When the data representing the orthogonal codes used for the alert signals transmitted from the mobile terminals to the base station are contained in the alert response transmitted from the base station to the mobile terminals, the data transmission schedules in the alert response are read out at the mobile terminals and the data are transmitted from the mobile terminals to the base station according the schedules that are read out.

When the data are to be transmitted and received between the base station and the mobile terminals according to the above-mentioned mobile communication method, mobile terminals which intend to transmit data select and generate particular orthogonal codes out of a plurality of orthogonal codes, and transmit these generated orthogonal codes to the base station as alert signals indicating the presence of data that are to be transmitted Here, the orthogonal codes transmitted as alert signals from the mobile terminals to the base station are such codes that the inner products of the same codes assume particular values but the inner products of different codes assume a value of zero.

The base station that has received the alert signals generates orthogonal codes and checks whether these generated orthogonal codes are contained in the alert signals transmitted from the mobile terminals to the base station. When the orthogonal codes generated by the base station are detected in the alert signals transmitted from the mobile terminals to the base station, the base station that has received the alert signals

determines schedules for transmitting the data from the mobile terminals to the base station. Then the base station transmits, to the mobile terminals, the data representing the detected orthogonal codes and the determined schedules for transmitting data from the mobile terminals to the base station as an alert response to the alert signals.

Upon receiving the alert response, the mobile terminals compare the orthogonal codes transmitted from the mobile terminals to the base station with orthogonal codes represented by the data stored in the alert response, and check if the data representing the orthogonal codes used in the alert signals transmitted from the mobile terminals to the base station are contained in the alert response transmitted from the base station to the mobile terminals. When the data representing the orthogonal codes used by a mobile terminal as its alert signal are contained in the alert response from the base station, the data transmission schedules in the alert response are read out by the mobile terminal, and the data are transmitted from the mobile terminal to the base station according to the schedules that are read out.

According to the mobile communication method as described above, the data are transmitted and received after the schedules are determined by alert signals of orthogonal codes. Therefore, an efficient communication of data can be accomplished between the base station and the plurality of mobile terminals." See, *Esmailzadeh* at column 3, line 24 to column 4, line 30.

The aforementioned is encompassed by steps 1101-1104 of FIG. 11 of *Esmailzadeh* and steps 1201-1203 of FIG. 12 of *Esmailzadeh*. If *Esmailzadeh* was to incorporate a contention resolution phase as asserted by Examiner *Baranyai*, then such a contention resolution phase would have to occur before step 1105 of FIG. 11 of *Esmailzadeh* and step 1204 of FIG. 12 of *Esmailzadeh*. However, *Esmailzadeh* was aware of the problems caused by collisions in terms of secondary station(s) having to repeatedly transmit reservation packets. See, *Esmailzadeh* at column 2, line to column 3, line 8.

To avoid collisions, *Esmailzadeh* thus teaches "the alert signals transmitted from the mobile terminals to the base station are multiplied by each of a plurality of orthogonal codes generated in the base station in order to check whether particular orthogonal codes are contained in the alert signals. The base station generates a plurality of orthogonal codes upon receiving alert signals from the mobile terminals, multiplies the alert signals transmitted from the mobile terminals to the base station by each of a plurality of orthogonal codes generated by the base station, and detects orthogonal codes in the alert signals that are received based upon the results of multiplication.

When a plurality of mobile terminals simultaneously transmit alert signals to the base station, a plurality of orthogonal codes are contained in the alert signals received by the base station. Here, however, the inner products of the same orthogonal codes assume particular values and the inner products of different orthogonal codes assume a value of zero. Therefore, the alert signals containing a plurality of orthogonal codes are multiplied by each of a plurality of orthogonal codes generated by the base station, and the results of multiplication are checked for each of the orthogonal codes. Even when the plurality of orthogonal codes are contained in the alert signals, therefore, it is possible to check if particular orthogonal codes are contained.

According to the mobile communication method as described above, the results of multiplication of the same orthogonal codes assume particular values and the results of multiplication of different orthogonal codes assume a value of zero. This makes it possible to detect the individual alert signals even when the plurality of alert signals are transmitted from a plurality of mobile terminals to the base station." See, *Esmailzadeh* at column 4, lines 32-67.

The benefit by *Esmailzadeh* in view of the capability of always being able to detect each alert signal is that a contention resolution phase is unnecessary prior to any implementation of step 1105 of FIG. 11 of *Esmailzadeh* and step 1204 of FIG. 12 of *Esmailzadeh*. Additionally, as illustrated in FIG. 12 of *Esmailzadeh*, if no data packets are received by the primary station during a step 1204 or if there are any errors in the received data packets as detected by the primary station during a step 1206, then *Esmailzadeh* teaches a re-scheduling by the primary station during a step 1205 or a step 1207, respectively, that does not involve any transmission of alert signals by a secondary station during steps 1105 and 1106 shown in FIG. 11 of *Esmailzadeh*.

Moreover, an incorporation of a contention resolution phase before step 1105 of FIG. 11 of *Esmailzadeh* and step 1204 of FIG. 12 of *Esmailzadeh* would cause a primary station to generate a contention data transmission schedule in response to the contention resolution alert signals. Thus, the secondary stations would all have the initial data transmission schedule related to the initial alert signals and the contention data transmission schedule related to the contention resolution alert signals. As such, when implementing step 1105, *Esmailzadeh* would have to device a scheme whereby each secondary station would have to know which of the data transmission schedules to follow to avoid any collisions that would occur if secondary stations are following different data transmission schedules. This is not efficient in view of the goals and objectives of *Esmailzadeh*.

Thus, *Esmailzadeh* clearly fails to disclose and teaches away from any type of contention resolution alert signal(s) and response being communicated between the secondary station(s) and the primary station. This is indisputable in view of the facts (1) that one of *Esmailzadeh's* objective is avoid collisions and the repeated transmissions of alerts signals as experienced by the prior art, and (2) any incorporation in *Esmailzadeh* of a contention resolution alert signal and response being communicated between the secondary station(s) and the primary station would change the principle operation of *Esmailzadeh* directed to eliminating a need for a contention resolution phase by having the capability to detect each alert signal, which also makes a transmission of a random access channel status message from secondary stations unnecessary

Obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See, MPEP §2143.

Furthermore, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (Claims were directed to an oil seal comprising a bore engaging portion with outwardly biased resilient spring fingers inserted in a resilient sealing member. The primary reference relied upon in a rejection based on a combination of references disclosed an oil seal wherein the bore engaging portion was reinforced by a cylindrical sheet metal casing. Patentee taught the device required rigidity for operation, whereas the claimed invention required resiliency. The court reversed the rejection holding the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." 270 F.2d at 813, 123 USPQ at 352.). See, MPEP §2143.01

Claims 1, 2, 3, 4, 9, 11, and 12. The Appellant respectfully asserts that is no suggestion or motivation to modify *Esmailzadeh* in view of *Kanterakis* as asserted by Examiner Baranyai to render obvious the limitations of claims 1, 2, 3, 4, 9, 11 and 12, because *Esmailzadeh* teaches away from the following limitations of independent claims 1, 3, 9 and 11.

1 "wherein the secondary station includes means for subsequently transmitting a contention resolution signal encoded with a second signature", and "wherein the primary station includes means for transmitting a further response to the contention resolution signal" as recited in independent claim 1;

2. "means for transmitting a further response to a subsequent contention resolution signal encoded with a second signature transmitted by the secondary station" as recited in independent claim 3;

3. "means for receiving a response from the primary station and subsequently transmitting a contention resolution signal encoded with a second signature" as recited in independent claim 9; and

4. "the secondary station subsequently transmitting a contention resolution signal encoded with a second signature", and "the primary station transmitting a further response to the contention resolution signal" as recited in independent claim 11.

Withdrawal of the rejection of claims 1, 2, 3, 4, 9, 11 and 12 under 35 U.S.C. §103(a) as being unpatentable over *Esmailzadeh* in view of *Kanterakis* is therefore respectfully requested

Claims 5 and 13. The Appellant respectfully asserts that is no suggestion or motivation to modify *Esmailzadeh* in view of *Kanterakis* as asserted by Examiner Baranyai to render obvious the limitations of claims 5 and 13, because *Esmailzadeh* teaches away from the following limitations of claims 5 and 13:

1. "means for transmitting the channel allocation signal at the same time as each of the responses" as recited in dependent claim 5, and

2. "the primary station transmitting the channel allocation signal at the same time as each of the responses" as recited in dependent claim 13.

Withdrawal of the rejection of claims 5 and 13 under 35 U.S C §103(a) as being unpatentable over *Esmailzadeh* in view of *Kanterakis* is therefore respectfully requested.

Claims 6 and 14. The Appellant respectfully asserts that is no suggestion or motivation to modify *Esmailzadeh* in view of *Kanterakis* as asserted by Examiner Baranyai to render obvious the limitations of claims 6 and 14, because *Esmailzadeh* teaches away from the following limitations of claims 6 and 14:

1. "means for subdividing the channel allocation signal into a plurality of portions" and "means for transmitting each of the portions at the same time as a respective one of the responses" as recited in dependent claim 6, and

2 "the primary station subdividing the channel allocation signaling into a plurality of portions" and "the primary station transmitting each of the portions at the same time as a respective one of the responses" as recited in dependent claim 14.

Withdrawal of the rejection of claims 6 and 14 under 35 U.S.C. §103(a) as being unpatentable over *Esmailzadeh* in view of *Kanterakis* is therefore respectfully requested

Claims 7 and 15. The Appellant respectfully asserts that is no suggestion or motivation to modify *Esmailzadeh* in view of *Kanterakis* as asserted by Examiner Baranyai to render obvious the limitations of claims 7 and 15, because *Esmailzadeh* teaches away from the following limitations of claims 7 and 15·

1. "means for including the channel allocation signal as part of the or each response" as recited in dependent claim 7; and

2 "the primary station including the allocation signaling as part of the or each response" as recited in dependent claim 15.

Withdrawal of the rejection of claims 7 and 15 under 35 U S.C. §103(a) as being unpatentable over *Esmailzadeh* in view of *Kanterakis* is therefore respectfully requested.

Claims 8, 10 and 16. The Appellant respectfully asserts that is no suggestion or motivation to modify *Esmailzadeh* in view of *Kanterakis* and in further view of *Gustafsson* as asserted by Examiner Baranyai to render obvious the limitations of claims 8, 10 and 16, because *Esmailzadeh* teaches away from the following limitations of claims 8, 10 and 16:

1 "means for transmitting a random access channel status message indicating the highest data rate available on the random access channel" as recited in dependent claim 8;

2 "means for receiving from the primary station a random access channel status message indicating the availability of random access channel resources" and "means for using the status message as a check on the channel allocation signal before initial transmission of data" as recited in dependent claim 10; and

3 "the primary station transmitting a random access channel status message indicating the highest data rate available on the random access channel" as recited in dependent claim 16.

Withdrawal of the rejection of claims 8, 10 and 16 under 35 U.S.C. §103(a) as being unpatentable over *Esmailzadeh* in view of *Kanterakis* and in further view of *Gustafsson* is therefore respectfully requested.

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CLAIMS APPENDIX

1 A radio communication system, comprising:

a primary station;

a secondary station;

a random access channel for the transmission of data from the secondary station to the primary station;

wherein the secondary station includes means for requesting access to a random access channel resource by transmitting a signal encoded with a first signature corresponding to the resource,

wherein the primary station includes means for transmitting a response to the request;

wherein the secondary station includes means for subsequently transmitting a contention resolution signal encoded with a second signature; and

wherein the primary station includes means for transmitting a further response to the contention resolution signal, means for selecting a random access channel to which the secondary station will be granted access, and means for transmitting a channel allocation signal identifying this channel at the same time as at least one of the responses

2. The system as claimed in claim 1, wherein the random access channel is adapted for transmission of data in packets.

3. A primary station for use in a radio communication system including a random access channel for the transmission of data from a secondary station to the primary station, the primary station comprising.

means for transmitting a response to a request from the secondary station for access to a random access channel resource, wherein the request includes transmission of a signal encoded with a first signature,

means for transmitting a further response to a subsequent contention resolution signal encoded with a second signature transmitted by the secondary station;

means for selecting a random access channel to which the secondary station will be granted access, and

means for transmitting a channel allocation signal identifying this channel at the same time as at least one of the responses

4 The primary station as claimed in claim 3, further comprising:

means for transmitting a further response to a further contention resolution signal transmitted by the secondary station.

5. The primary station as claimed in claim 3, further comprising:

means for transmitting the channel allocation signal at the same time as each of the responses

6 The primary station as claimed in claim 3, further comprising:

means for subdividing the channel allocation signal into a plurality of portions; and

means for transmitting each of the portions at the same time as a respective one of the responses

7. The primary station as claimed in claim 3, further comprising:

means for including the channel allocation signal as part of the or each response

8 The primary station as claimed in claim 3, further comprising:

means for transmitting a random access channel status message indicating the highest data rate available on the random access channel.

9. A secondary station for use in a radio communication system including a random access channel for the transmission of data to a primary station, the secondary station comprising:

means for requesting access to a random access channel resource by transmitting a signal encoded with a first signature corresponding to the resource,

means for receiving a response from the primary station and subsequently transmitting a contention resolution signal encoded with a second signature;

means for receiving a further response from the primary station; and

means for determining which channel has been allocated from a channel allocation signal transmitted by the primary station at the same time as at least one of the responses.

10. The secondary station as claimed in claim 9, further comprising:

means for receiving from the primary station a random access channel status message indicating the availability of random access channel resources; and

means for using the status message as a check on the channel allocation signal before initial transmission of data.

11. A method of operating a radio communication system including a random access channel for the transmission of data from a secondary station to a primary station, the method comprising:

the secondary station requesting access to a random access channel resource by transmitting a signal encoded with a first signature corresponding to the resource;

the primary station transmitting a response to the request;

the secondary station subsequently transmitting a contention resolution signal encoded with a second signature;

the primary station transmitting a further response to the contention resolution signal,

the primary station selecting a random access channel to which the secondary station will be granted access; and

the primary station transmitting a channel allocation signal identifying this channel at the same time as at least one of the responses.

12. The method as claimed in claim 11, further comprising:

the secondary station transmitting a further contention resolution signal and the primary station transmitting a further response.

13. The method as claimed in claim 11, further comprising:

the primary station transmitting the channel allocation signal at the same time as each of the responses.

14. The method as claimed in claim 11, further comprising:

the primary station subdividing the channel allocation signaling into a plurality of portions; and

the primary station transmitting each of the portions at the same time as a respective one of the responses.

15. The method as claimed in claim 11, further comprising:

the primary station including the allocation signaling as part of the or each response.

16. The method as claimed in claim 11, further comprising:

the primary station transmitting a random access channel status message indicating the highest data rate available on the random access channel.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.